

REMARKS

Claims 1-17 are pending in the application. Claims 1-5 and 11 are withdrawn from consideration and have been cancelled by this amendment. Claims 6-10 and 12-17 are rejected. Claim 17 is amended in order to correct a clear typographical error. Applicants have added new claims 18-20.

Claim Rejections - 35 U.S.C. § 112

Claims 6 and 7 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. The Examiner repeats his rejection set forth in Section 5 of the last Office Action. In particular, the Examiner notes that it is unclear how a fabric can be composed of synthetic fiber or fiber containing at least some synthetic fiber.

The Examiner's comment relates to the definition of a "fiber". The Examiner appears to assert that an individual fiber cannot be composed of both some synthetic fiber and something else. The Examiner suggests that the Applicant may intend that the fabric is comprised of a blend of fibers some of which are synthetic.

Applicant respectfully submits that the definition of "fiber containing synthetic fiber" is described in paragraph [0183-185] of the present specification. The term is coincident with a "fiber yarn", as described in paragraphs [0156]-[0161] and comprises a mixture of synthetic and natural materials. The result of such mixing is a fabric, as described in Example 2, an "example of polyester 80% cotton 20% napped fabric", which is a fabric composed of a blend of fibers some of which are synthetic. This would be the meaning of the phrase as defined by the applicant in the original description. The meaning is clear and would be well understood by one skilled in the art in reading the specification. Accordingly, the rejection should be withdrawn.

However, if the Examiner persists in his position but has a suggestion as to the terminology that would be clearer, consistent with the original disclosure, Applicants welcome such suggestion.

Claim Rejections - 35 U.S.C. § 112, first paragraph

Claim 17 is rejected under 35 U.S.C. § 112, first paragraph as failing to comply with a written description requirement. Claim 17 was added by the applicant in accordance with the instructions of your letter dated October 16, 2003. The Examiner correctly notes that the description at page 12, paragraph [0189] teaches that compounds useful as ink holding agents lowly wettable to synthetic fiber comprise natural or semi-synthetic polymers. However, ink holding agents which have a high wettability are limited to synthetic polymers.

Applicant made a typographical error in defining the subject matter of claim 17, that error now is corrected and the feature in claim 17, as well as new claims 19 and 20, are well supported by the original disclosure. Accordingly, this rejection should be withdrawn.

Claim Rejections - 35 U.S.C. § 102

Claims 6, 9 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nakao et al (5,683,784). The Examiner refers to the previous rejection set forth in Section 7 of the last Office Action for additional detail.

Claims 6, 9 and 10 relate to a method of preparing fabric for use in ink-jet printing. The method includes a first step of applying a solution containing an ink holding agent of high wettability to the synthetic fiber so as to cause the solution to penetrate into the fabric. The claim also states that thereafter an ink holding agent of low wettability is applied to the synthetic fiber from the fabric non-printing side. This solution penetrates into the fabric.

The Examiner notes that the Applicant had argued that Nakao's agent of high wettability and low wettability coexist on the same non-printing side of the fabric. The Examiner refers to Nakao's Example 1, which teaches a silica coating liquid comprising silica powder and hydrophilic acrylic resin coated on one side of the fabric and the use of a boehmite coating liquid comprising boehmite sol and a polyvinyl alcohol binder coated on the other side of the fabric, with reference to col., 4, lines 1-22. The Examiner asserts that the silica coating liquid, which is applied in a high viscosity by a knife coater or a dip coater (col. 2, lines 16-25) meets the claim limitation for a ink holding agent of relatively low wettability. Further, the Examiner asserts that some penetration occurs into the fabric. Finally, the Examiner asserts that the boehmite layer, which is coated as a solution, inherently acts as a ink holding agent of relatively high wettability of which inherently penetrates into the fabric to some degree. The Examiner concludes that Nakao anticipates the claims.

The flaw in the Examiner's analysis is that he ignores the sequence of steps provided in the claim. The first step requires applying a solution of high wettability. The claim especially states that "thereafter" the ink holding agent of low wettability is applied from the non-printing side. This sequence is extremely important in order to achieve the coating of a high wettability agent as illustrated in Fig. 2b followed by the infusion of a low wettability agent as illustrated in Fig. 2c of the present application.

It is clear from Example 1 in the prior art that the silica coating liquid, which the Examiner asserts is a ink holding agent of low wettability, is first applied. Thereafter, the boehmite coating liquid, which the Examiner asserts is the high wettability agent, is applied. This is the opposite sequence to that which is claimed. There is no teaching that these steps may be reversed. Accordingly, the claim cannot be anticipated and the rejection must be withdrawn.

Further, Applicant respectfully submit that, contrary to the Examiner's position, the silica coating liquid, which is expressly defined as having a high solid content concentration and a high viscosity, requiring a coating method of a knife coater or a dip coater, cannot penetrate into the fabric. The solid content and high viscosity necessarily precludes such penetration.

Applicants respectfully submit that the final product of Nakao has a structure of layer/fabric/layer. This is not a structure that precludes penetration, in the manner achieved by the present invention. Again, the steps for precluding penetration in the present invention are clearly illustrated in Figs. 2(b) and 2(c), where first the high wettability agent freely coats the surface of the fiber yarns 2 and thereafter the wettability agent (bold)fills the space left between the yarn 2 with element 4. Clearly this is not seen in the prior art cited by the Examiner.

Claims 12-16 are rejected under 35 U.S.C. § 102(b) as being unpatentable over Nakao. This rejection is traversed for at least the following reasons.

The Examiner notes that claim 12 limits the ink holding agent of high wettability to a polymer while claim 13 limits it to a water soluble polymer and claim 16 limits it to a synthetic polymer. The Examiner asserts that Nakao teaches the boehmite layer comprising a binder of polyvinyl alcohol, which is inherently a synthetic water soluble polymer.

The Examiner's analysis refers to the boehmite layer, which is asserted to be an agent of relatively high wettability. Nonetheless, since claim 12, 13 and 16 all depend from claim 6, the rejection must be overcome.

With respect to claims 14 and 15, the Examiner asserts that the hydrophilic acrylic polymer of the silica ink holding layer of Nakao inherently meets the limitation of the low wettability polymer which can form hydrogen bonds with the ink absorbs therein. Again,

Applicant respectfully submits that these claims depend from claim 6, which cannot be anticipated for the reasons already given.

Claim Rejections - 35 U.S.C. § 103

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakao in view of JP 09-279486 (Maeda et al). This rejection is traversed for at least the reasons previously given in the response to these last Office Action. Moreover, this claim recites the steps of first applying a solution of high wettability agent and thereafter applying an agent of low wettability for penetration into the ground texture. As already asserted, Nakao is deficient in this regard. Nothing in Maeda et al teaches or suggests this specific sequence, as claimed. Thus, the prior art, even if combined, cannot render the claimed invention unpatentable.

Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakao in view of EP 1 122 068 (Nakamura et al). This rejection also is traversed for at least the reasons given in the previous amendment and the reasons given herein for the patentability of claim 6 over Nakao. Nakamura et al does not remedy the deficiency in Nakao, particularly with respect to the failure to teach the sequence of first applying a solution of high wettability agent and thereafter applying an agent of low wettability.

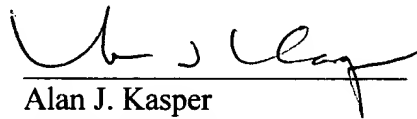
New Claims

Applicants have added new claims 18-20. Claim 18 relates to the sequence of steps as applied to yarn strands, as illustrated in Figs. 2a-2c, and claims 19-20 represent a combination of claims 16 and 17 (as corrected) with dependency from claims 6 and 7, respectively. These claims would be patentable for the reasons already given for claims 6 and 7.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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